
UNIT 3 EMS STANDARDS ISO 14000

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3.0 INTRODUCTION

International Organization for Standardization (ISO), comprising 160 national standard bodies is coordinated by central secretariat situated in Geneva, Switzerland. The ISO has established to work in direction of boosting the advancement of standardization, promoting international exchange of goods and services. ISO 14000, as family of standards was developed by ISO/TC 207, Environmental Management Committee and various sub-committees. ISO 14000 includes 21 published standards subjected to managing environmental issues across the world. ISO/TC 207 and ISO/TC 176 (Quality Management and Quality Assurance) works together to run the process in systemic manner.

The ISO 14001 defines requirements for an effective Environmental Management System (EMS) in ISO 14001 series subjected to guidelines followed by organization. The fundamental elements of ISO 14001 includes “Plan: Do: Check: Act” (PDCA) cycle which ensures development, continuous improvement and control of the management system. The ISO 14001 has been formulated appropriate for any organization. EMS models have its impact in managing environmental systems including models EMAS, ACC, DOJ, NEIC, EPA but ISO 14001 is widely accepted and there are 2000 certified organizations under ISO 14001. There are several benefits of implementing EMS in sectors such as operation, marketing, environment, finance, likewise ISO 14001 carries benefits to its users in different sectors.

The Occupational Health and Safety Assessment Series (OHSAS) 18001 is compatible with ISO 9001 (Quality) and ISO 14001 (Environment) in managing system standards. The OHSAS 18001 has its own benefits in terms of flexibility, voluntary in nature, specific performance, its international recognition and much more. The Integrated Management Systems (IMS) has been developed with clear objective to minimize duplication of procedures and working processes.

3.1 OBJECTIVES

After studying this unit, you should be able to:

- explain ISO, ISO 14000 and EMS;
- explain Plan-Do- Check-Act (PDCA) cycle;
- list of ISO family standards;
- list various Benefits of Implementing ISO 14001;
- explain OHSAS 18001; and
- describe Integrated Management system.

3.2 EVOLUTION, PRINCIPLES AND STRUCTURE OF ISO 14000

The International Organization for Standardization (ISO), is located in Geneva, Switzerland. It is a worldwide union of 160 national standard institutes from almost all kinds of countries. The main motive of ISO is to boost the advancement of standardization and associated activities throughout the world, carrying a vision to promote international exchange of goods and services along with facilitating alliance in the fields of intellectual, scientific, technological and economic activity. The outcome of the technical work done by ISO leads to the development of ISO standards also known as International Standards. ISO has developed more than 18000 standards complying with the three main dimensions of sustainable development: economic, environmental and societal. With time, changing requirements and emerging environmental issues, all ISO standards are reviewed and revised frequently in order to keep them remain relevant to the end-users.

Table 3.1: Evolution of ISO

Year	Event
1947	ISO Founded in Geneva
1951	ISO's first standard was published, i.e. ISO/R 1:1951 Standard reference temperature for industrial length measurements
1955	3rd General Assembly at Stockholm. At the beginning of 1955, ISO has 35 members and 68 standards (recommendations). Henry St Leger is the Secretary General.
1960	International System of Units (SI) – ISO 31 (replaced by ISO 80 000).
1961	DEVCO established in 1961, a committee for developing country matters and in 1968 introduces Correspondent membership. This allows developing countries to be informed of International Standardization work without the full costs of ISO membership.
1971	Two technical committees were constituted in the field of environment, 1. Air quality and 2. Water quality.
1970's	During this period ISO's Secretary General OlleSturen focuses on turning ISO into a truly international organization.
1987	Published its first quality management standard "ISO 9000 family" which addresses various aspects of quality management and contains some of ISO's best-known standards.
1995	ISO digitalized
1996	Launched environmental management system standard, ISO 14001.
2005	ISO and IEC's joint technical committee JTC1 launched ISO/IEC 27001, a management system standard on information security.
2008	ISO jointly with ITU and IEC received Emmy Award for work producing an advanced video coding standard.
2010	Launched ISO 26000, the first International Standard providing guidelines for social responsibility.
2011	Launched ISO 50001, International Standard providing guidelines for energy management.
2016	Published powerful new tool, ISO 37001 - the first international anti-bribery management system standard to combat bribery
2017	Completes 70 years

Source: www.iso.org

Before 1987, ISO developed traditional standards but in 1987, ISO 9000 was established which laid the foundation for the quality standards, and with time ISO standards gained importance among nations in and outside of European Union for business communications. In 1993, ISO constituted the Technical Committee 207 on Environmental Management aiming to develop international standards for environmental management tools and systems.

ISO/TC 207, Environmental management, the technical committee of ISO, has developed ISO 14000 family of standards which comprise of 21 published standards. These standards provide a common framework to effectively manage environmental issues related to organizations across the world. These guidelines promise to effect a broadly based improvement in environmental management, which in turn can facilitate trade and improve environmental performance worldwide.

ISO/TC 207, work in close proximity with ISO/TC 176, Quality Management and Quality Assurance, the ISO's technical committee which developed ISO 9000. The following areas are covered under the scope of ISO/TC 207 documents:

1. Environmental management systems
2. Environmental auditing and related environmental investigations
3. Environmental performance evaluation
4. Environmental labelling
5. Life cycle assessment
6. Environmental communication
7. Environmental aspects in product standards
8. Terms and definition
9. Greenhouse gas management and related activities
10. Measuring the carbon footprint of products

ISO/TC 207 operate along with 30 international organizations. Some of these organizations include:

1. Asian productivity Organization
2. Confederation of European Paper Industries
3. European Commission
4. Environmental Defense Fund
5. Global Ecolabelling Network
6. International Chamber of Commerce
7. International Institute For Sustainable Development
8. International Iron And Steel Institute
9. Organization For Economic Co-operation And Development
10. Sierra Club, 12. United Nations Environment Programme
11. World Business Council For Sustainable Development
12. World Health Organization
13. World Resource Institute
14. World Trade Organization

Bureau of Indian Standards (BIS) is also a founder member of ISO, representing India during the technical meetings of the technical committee of ISO/TC 20, in which experts from industry and BIS officers take part. ISO 14000 is also named as IS/ISO 14000 according to BIS. BIS also provides certification courses to any organization that applies for a set of standards, such as IS/ISO 14001. However, there are five key principles that cover the family of 14000 standards:

- Principle 1- Commitment and Policy
- Principle 2- Planning
- Principle 3- Implementation
- Principle 4- Measurement and Evaluation
- Principle 5- Review and Improvement

3.2.1 The Plan-Do- Check-Act (PDCA) Cycle

Like all other ISO management systems standards, ISO 14000 is developed with the same Plan-Do- Check-Act (PDCA) cycle.

Table 3.2: ISO 14000 Family of Standards

ISO 14001	Framework for environmental management systems (EMS)
ISO 14004	Additional guidance and useful explanations for ISO 14001
ISO 19011	Useful for EMS and quality management system audits
ISO14031	Guidance on how an organization can evaluate its environmental performance.
ISO 14020	Series of standards address a range of different approaches to environmental labels and declarations.
ISO 14040	Guidelines on the principles and conduct of Life Cycle Assessment studies
ISO 14064p arts 1, 2 & 3	International greenhouse gas (GHG) accounting and verification standards
ISO 14065	Complements ISO 14064 by specifying requirements to accredit or recognize organizational bodies that undertake GHG validation using ISO 14064
ISO 14063	Guidelines on environmental communication
ISO Guide 64	Guidance for addressing environmental aspects in product standards
*ISO 14045	Provide principles and requirements for eco-efficiency assessment
*ISO 14051	Guidelines for general principles and framework of material flow cost accounting (MFCA)
*ISO 14067	Guidelines for the quantification and communication of greenhouse gases (GHGs) associated with products
*ISO 14069	Guidance to calculate the carbon footprint of the products, services and supply chain

*ISO 14005	Guidelines for the phased implementation of an EMS to facilitate the take-up of EMS by small and medium-sized enterprises
*ISO 14006	Guidelines on eco-design
*ISO 14033	Guidelines and examples for compiling and communicating quantitative environmental information.
*ISO 14066	Specify competency requirements for greenhouse gas validators and verifiers.

* New Standards (Source: www.iso.org).

The development programme of ISO/TC 207 is constantly evolving, driven by market needs. With time, requirement and emerging environmental issues, all ISO standards are reviewed and revised frequently to make sure they remain relevant to the marketplace.

The latest revision published is ISO 14001:2015. These revised guidelines are in order to latest trends, including the increasing recognition by companies of the need to factor in both external and internal elements that influence their environmental impacts, such as climate volatility and the competitive context in which they work. These revised guidelines are designed to make compatible with other existing management system standards (ISO, 2015). Implementation of ISO 14001:2015 may be in whole or partial. But, claims of conformity to ISO 14001:2015 are not acceptable unless all its requirements are incorporated into an organization's environmental management system and fulfilled without exclusion.

3.2.2 Benefits of ISO 14001

In order to obtain the complete benefit of ISO 14001, an implementing organization is required to give great attention to all the possible area and activities which may have an environmental impact. By doing so, the organization can obtain following benefits:

1. Reduced cost of waste management through the reduction of waste stemming from increased recycling within the organization.
2. Reduced consumption of energy and raw materials and better use of natural resources.
3. Improved corporate image amongst regulators, customers, and the general public.
4. Increased employee morale within the company as employee participation is integral to the success of such a commitment.
5. A framework for continual improvement of the organization's environmental performance.
6. The use of an international registration mark portraying the organization's environmental commitment, which can lead to increased opportunities with suppliers, clients, and government organizations.

3.3 EMS SPECIFICATION STANDARDS ISO 14001

Dear Learners, let us now read about EMS Specification Standards ISO 14001 in the following sentences:

3.3.1 EMS and ISO 14001

Managing natural resources in a sustainable way is considered as main criteria, which determine the fate of our earth and human beings. In order to fulfil the increasing demand of growing population natural resources is utilized in a nonscientific manner which is responsible for environmental problems at global level such as global warming, ozone depletion etc. In order to handle the emerging environmental issues, several schemes and standards were developed and implemented at international level.

Environmental Management System (EMS) is primarily used to address the impact of an organization on the environment. It helps identify, manage, monitor and control their environmental issues in a “holistic” manner thereby improving their environmental performance through the more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders.

In general, an EMS should be based upon an organization’s documented environmental policy and contain the following characteristics:

1. Goals, methods, and a timeline for meeting environmental requirements and voluntary undertakings.
2. Procedures for maintaining appropriate documentation relating to its goals.
3. A defined structure and the responsibilities for each task along with the availability of adequate resources.
4. Corrective and preventative actions as well as emergency procedures.
5. An employee-training plan with periodic updates to define goals of the EMS, responsibilities, and risks.
6. A plan for periodic auditing of the organization’s performance in achieving the goals and how well the EMS helps the organization to achieve those goals

(Cascio 1996; Matthews 2001; Stapleton et al. 2001; Christin et al., 2004).

The ISO 14001 is the international standard that specifies requirements for an effective EMS in ISO 14000 series. It provides an outline that an organization can adopt and follow, rather than establishing environmental performance requirements. The ISO 14001 standard defines an EMS as “*a management tool enabling an organization of any size or type to control the impact of its activities, products or services on the environment*”. The ISO in 1996, launched the international voluntary standard ISO 14001:1996 “Environmental Management Systems - Specifications with Guidance for use.” In 2004, it was revised and updated by ISO with the title “Environmental Management Systems- Requirements with guidance for use.”

The ISO 14001:2004 - Environmental Management Systems (EMS) Standard has been developed to help organizations identify, manage and control the activities that have an environmental impact. It is adopted by Industrial companies, service organizations, utility and public bodies worldwide.

There are several benefits for a company which is carrying out the implementation of an effective EMS. Some benefits are as follow:

- Improved regulatory compliance requirements.
- Open markets and reduced trade barriers.
- Reduction in liability and risks.
- Enhanced credibility among customers and peers.
- Reduction of harmful impacts to the environment.
- Prevention/reduction of pollution and waste, many times resulting in cost savings.
- Improvements in site and project safety by minimizing injuries related to environmental spills, releases, and emissions.
- Improved relationships with stakeholders such as government agencies, community groups, and investors.
- Establishment of a system for continued environmental improvement.

3.3.2 Fundamental Elements of ISO 14001

According to ISO 14001, the concern for the environment should be concentrated on the surroundings in which the organization operates such as air, water, land, flora, fauna and human interactions. The clear definition and differentiation between activities, associated aspects and the resulting environmental impacts are very crucial to any effective environmental management system. For successful implementation of environmental management system, the above aspects should thus be dealt with greater significance.

The fundamental of all ISO management system standards lies in “Plan:Do:Check: Act” (PDCA) cycle. The cycle ensures development, continuous improvement and control of the management system in question.

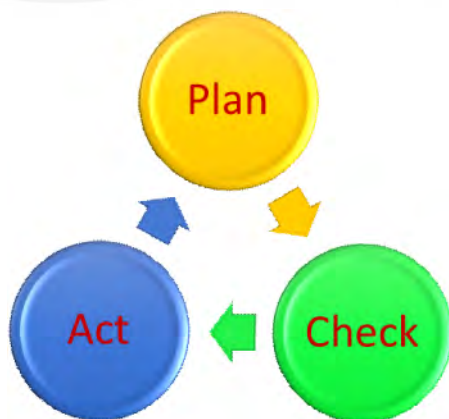


Fig. 3.1. Flow diagram of ISO Management system standards

Plan: Implementation of Environmental Management System according to of ISO 14000 guidelines.

This is the first step to getting certified with the ISO 14001 Environmental Management Standard. The objective is to define an environmental policy and establishing good environmental performance. Like with other ISO management systems, it is important for a given organization that managers must be fully focused and driven to achieve the relevant requirements. The identification of operations that interact or might interact with the environment in the future is where the management team should start. The interactions will either be direct (as in the manufacturing industry) or indirect (as in the primary sector like raw materials). In order to be successful, the goals and targets coming from the management team have to be measurable so they can be reviewed and improved by organization's internal audits.

Do: Conducting Life Cycle Assessment and Managing Environmental Aspects

The PDCA process involves the implementation of the system in the second stage which has been planned by the management in the first stage. The implementation of an EMS involves conducting a life cycle assessment and managing environmental aspects and greenhouse gases. This stage also involves defining the resources and the members of your organization that is responsible for maintaining and control of various processes that are put in place. The members responsible for such processes should be trained and should have documentation for all procedures and processes including operational and documentation control and emergency procedures and responses.

Check: Conducting Audits and Evaluating Environmental Performance

In this stage, internal audits are conducted and environmental performance measured periodically, which ensures that the given organization's objectives and targets are being met. The review also includes measuring the greenhouse gas (GHG) performance. The management team needs to ensure that the employees responsible for various processes are maintaining and monitoring them adequately. In order to make the whole audit system more effective, the organization should keep monitoring the requirements limited to key process characteristics. The ISO 14001 standard is compatible if the organization already has a quality system in place. Like other management system standards, there is a requirement to present documentation outlining the corrective and preventative actions for various setbacks or processes. This document ensures continuous incremental improvement and emphasizes the environmental mindset the organization needs on every level.

Act: Using and Maintaining the Environmental Management System through continuous improvement.

A planned management review has to be conducted in order to ensure continuous improvement. This involves:

- Evaluation of audits
- Ensuring the meeting of the organization's objectives and targets
- Ensuring the meeting of ISO 14001 requirements

- Devising improvements to the processes
- Evaluating changing circumstances such as legal requirements

The intention of ISO 14001:2004 is to provide a framework for a holistic, strategic and systematic approach to the organization's environmental policy, plans and actions. The recently revised guidelines of ISO 14001:2015 now requires:

- Environmental management to be more prominent within the organization's strategic direction
- A greater commitment from leadership
- The implementation of proactive initiatives to protect the environment from harm and degradation, such as sustainable resource use and climate change mitigation
- A focus on life-cycle thinking to ensure consideration of environmental aspects from development to end-of-life
- The addition of a stakeholder-focused communication strategy

The improvisation in ISO 14001 guidelines are also focused on expansion (more and more business areas should get covered by the implemented EMS), enrichment (more and more activities, products, processes should be involved in the EMS) and upgradation (improvement in structure and framework of the EMS through know-how gained by the business when dealing with environmental issues).

3.3.3 Significance of ISO 14001

The ISO 14001 standard defines an EMS as “*a management tool enabling an organization of any size or type to control the impact of its activities, products or services on the environment*” (ISO 2002). The ISO 14001 establishes a framework for managing (through the development of formal processes and procedures) the environmental aspects of an organization. The key elements of the standard are grouped into five major areas;

(1) Environmental policy, (2) planning, (3) Implementation and operation, (4) Checking and Corrective action, and (5) Management review.

A unique aspect of the system is that it is designed to be appropriate for any company, regardless of industry, size, location, and the level of their environmental responsibilities. The ISO 14001 is a voluntary, consensus-based, and market-driven standard (Kloepfer 1997).

The ISO 14001 requires:

- (1) Committing to comply with applicable legislation and regulations
- (2) Implementing a continual improvement process (ISO 1996).

Many firms go beyond the ISO 14001 EMS requirements by adding additional elements for reforms and public reporting of emissions beyond legal requirements. For these firms, ISO 14001 is viewed as necessary, but not sufficient, for effective environmental management (Matthews 2001).

Every industry and company provides information on their environmental programs on their website available to the public. Other information that is available includes toxic release inventory data, Occupational Safety and Health Administration statistics, and documentation on programs such as National Environmental Performance Track (NEPT). (Christini et al. 2004)

3.4 IMPLEMENTATION OF EMS CONFIRMING TO ISO 14001

The management of environment system might differ from each organization but mostly includes maintenance of wastes, energy consumption, transport and the materials used. While implementing the environmental management system the organization has to identify the significant impacts relevant to its business. The environmental management system should be built into the existing management structure rather than being a standalone system. The implementation of environmental management system should include the following steps:

- Initiation of environmental friendly policy
- Involvement of the person responsible for its coordination
- Formation of relevant legal and other requirements
- Recognition of actual and potential impacts on environment
- Continuous monitoring of the objectives and the progress of the objectives
- Constant review on improvement on performance.

3.4.1 EMS Models

There are several models have been framed for the environmental management systems out of these the ISO 14001 is the most well-known international standard. The other models are as follows

- EMAS: European eco-management and adult scheme
- ACC: American care council developed by responsible care model
- DOJ: US Department of Justice “Seven key compliance program elements”
- NEIC: EPA national enforcement investigation center “compliance focused” EMS

Out of all these models, the highly accepted and practiced one is ISO 14001 standard. This is more similar to the ISO 9001 quality management. ISO 14001, it helps in improving the organization’s environmental performances with respect to any applicable legislation. The new ISO 14001 has been published on September 2015, which includes several new updates. It has strengthened the commitments of top management and evaluating. There are more than 2,000 organization currently certified with ISO 14001. It also includes 155 countries participating in it. China and Japan holds the highest number of ISO 14001 certified organizations.

3.4.2 ISO 14001: 5 Major Steps to Register

1. **Gap Analysis:** This goes through the methods already followed by the organization to manage its environmental wastes and the frames the changes need to be made in order to meet the requirements of ISO 14001.
2. **Initial Implementation:** Development of implementation strategy which includes the need for third party registration if the company needs.
3. **Pre-registration internal audits:** Prior to the official registration of ISO 14001 there must be several internal audits and management review.
4. **Registration:** The EMS registration audit conformance of the company's EMS to match to the requirements specified in ISO 14001.
5. **Ongoing implementation:** Continuous improvement of EMS according to the need of the organization. It also depends on the product of the organization. The fluctuation in overall business has to be calculated.

3.4.3 Case Study on Implementation of EMS

Beers Skanska became the first construction firm in the United States to achieve ISO 14001 certification in July of 1999. Their environmental policy encompasses the following seven areas, 1. Regulatory compliance, 2. Prevention of pollution, 3. Conservation, 4. Emissions and effluents, 5. Ecology and habitat, 6. Hazardous and toxic substances, and 7. Communication.

The goals set up by Beers Skanska EMS:

1. Reduce solid waste by 30% by reducing material use and through recycling and reusing materials on-site.
2. Reduce energy use by increasing by 10% the number of projects per year that focus on energy reduction.
3. Reduce air emissions by increasing by 5% the number of projects per year that focus on air emissions.
4. Further, reduce air emissions by 30% through continuing to encourage alternative commuting methods for employees.

Beers Skanska implemented ISO 14001 EMS without government or client pressure. Instead, they chose to fulfill Skanska's environmental commitment and gain a competitive edge. The quality and quantity (about 200 projects at a time throughout the United States) of projects motivates Beers Skanska's subcontractors to meet their demands (Christini et al., 2004)

3.5 BENEFITS OF IMPLEMENTING ISO 14001

ISO 14001 environmental management systems are the most documented and developed environmental management systems in the world. Currently, there are over 2,000 certified organizations registered and benefiting from the supervision provided within the ISO 14001 standards. By implementing ISO 14001 certification one's organization can guarantee the stakeholders that the environmental management system (EMS) meets international industry specific environmental standards. Each and every corporation, whether large or small; industrial, manufacturing, services, or trade related have an impact on the environment and can hence benefit from the ISO 14001 certification.

3.5.1 How It Helps

- It recognizes and creates the significance of all your environmental impacts.
- It implements efficient operational controls to administer your environmental impacts.
- It advances the effective employment of natural materials.
- It builds you to take account of legal requirements while setting up, implementing and maintaining your ISO 14001 system.
- It ensures you to execute to complying with appropriate legal requirements.
- It makes you communicate significant information on legal and other requirements to employees and concerned parties.
- It illustrates that environmental impacts are the main concern.
- It restores the confidence of the stakeholders that best practice systems are in place.
- It makes sure you persistently develop your sustainable development.
- It exhibits that you are an ethical and credible organization.
- It is internationally recognized.
- It helps to set up long-lasting partnerships with customers and suppliers at home and abroad

3.5.2 Benefits of EMS Implementation

Cost saving is one of the major benefits in EMS. It allows identifying the possible efficient way to cut cost and improve the quality of the product. The benefits include

Operational benefits:

- Reduces pollution
- Less operating cost
- Makes the working place safer
- The change of process to give high-quality products
- Downsizing the cost of waste disposal, handling of waste, emissions, and discharges
- The development and the transfer of knowledge within the company

Environmental Benefits:

- Reduction in non- hazardous and hazardous waste
- Helps in conserving natural resources like gas, electricity, space and water.
- Pollution and the disposal of waste can be highly controlled.

Marketing Benefits:

- Assist in demonstrating the customers and the stock holders that firm meets the environmental expectations.

- The purchasing requirements meet the potential national and international standards.
- Equips with a competitive marketing tool.

Financial Benefits:

- It improves the relationship with insurance companies.
- Improves accountability and reduces risk
- Meet the expectation of stakeholders and customers
- Cost savings by the reduction of material and energy input

3.5.3 Major Benefits of ISO 14001

Apart from the apparent benefit to improving the environment, the complete system from top management to the grass root level should know why this is important for an organization. Not all of the benefits signify the same thing to everyone at an organization, but the followings are few of the key benefits,

Improving Image and Credibility

With the increasing awareness on environmental pollution, now consumers are more concerned about the environmental practices of the companies that manufacture the products they use. In order to assure the consumers that a company is managing the environmental impact is by adopting effective EMS guidelines (ISO 14001) through which the impact can be recognized and managed. This can improve the image of the company, help them to maintain a good public image, and improve community relations. Through this, they get better market share with the interested parties.

Help to Comply with Legal Requirements

By implementing ISO 14001 the company will be benefited by providing the details of structure for identifying, monitoring and complying with the diverse environmental needs. Furthermore, implementing ISO 14001 guidelines the company will assure the people about their environmental concern and impact management system.

Improvement in Cost Control

All organizations want to decrease costs – this is a fact of life in today's world economy. How implementation of ISO 14001 is going to help in reducing cost is really interesting. At first, the guidelines can be used to identify, control, and reduce a number of environmental incidents that occur, which can cost a company through accountability costs of fines, cleanup, and reparations. Further, the improvement in the features of the environmental management system will help in decreasing costs by working to conserve the energy and input materials.

Higher Rate of Success when Implementing Changes

While implementing or trying to create the improvements, it is always important to ensure that a company is working with accurate data, which is considered as a key element of the ISO 14001 standard. By incorporating the improvement activities in place, a company can significantly enhance the chances success by tracking the enhancement through good data collection.

Enable Quicker Improvement of Processes

An integral part of ISO 14001 requirements is a continual improvement, which can be used to help the company to shift from small improvements toward greater enhancements of organizational development. When people are involved in a culture that utilizes them to work toward common goals of improvement, they are more engaged overall.

Reduce Employee Turnover

As just mentioned, it is important to create an environment where employees to concern more about company improvements which make them more engaged overall. Engaged employees in a group attempt to reduce the company's environmental footprint will often have an increased employee focus and retention. For an organization it is always easier and less expensive to keep employees than it is to recruit and train new employees.

The prime reason for adopting and implementing environmental management system through ISO 14001 is to improvise environment by reducing our environmental footprint of a company or organization. It can be easier to justify the cost of making these improvements by focusing on these other benefits that can go away from the simple ideals of environmental stewardship and focus more on the long-term advantages of employing an environmental management system.

3.6 OHSAS 18001: COMPARISON TO ISO 14001 AND ISO 9001

Dear Learners, let us now read about OHSAS 18001: Comparison to ISO 14001 and ISO 9001 in the following sentences:

3.6.1 Introduction to OHSAS 18001

An Occupational Health and Safety Management System (OHSMS) provides a framework for managing Occupational Health and Safety (OH&S) activities, procedures and processes so they become more efficient and a more integrated part of the overall business operations. The Occupational Health and Safety Assessment Series (OHSAS) 18001, developed in 1999 focusing on Occupational Health and Safety Management system. The primary rationale behind OHSAS 18001 is to continuously minimize occupational hazard risk in the workplace, which in turn improve the company profitability. Additionally, OHSAS 18002 provides guidance for establishing, implementing or improving a management system which is based on OHSAS 18001 and demonstrating successful implementation of OHSAS 18001. It is a documentation intensive system that can be altered and customized to outfit organizations particular needs. The OHSAS 18001 was developed to be compatible with the ISO 9001 (Quality) and ISO 14001 (Environment) management systems standards. Hence it is easier to integrate quality, environment and occupational health and safety management systems standards by organizations.

3.6.2 Challenges of OHSAS 18001

- Originally published as a specification it was not a formal standard, an official British Standard, nor was it an official International Standard.

- It does not state specific Occupational Health and Safety(OH&S) performance criteria and do not provide a detailed specifications for design of a management system
- No accreditation scheme based on OHSAS 18001
- Certification bodies can only issue non-accredited certificates for OHSAS 18001 (e.g. Certificate of Conformance)
- Cost of Conformance Certificates.

3.6.3 Benefits of OHSAS 18001

- It provides a flexible management system framework
- Completely Voluntary in nature
- It allows organization to select from multiple recognition bodies
- It does not require specific performance threshold (i.e. TCIR and DART rates below peers)
- It can have regulatory violations but still receive recognition.
- It is aligned with ISO 9001 and ISO 14001
- It integrates existing Standards with Health and Safety easier.
- It is internationally recognized.

3.6.4 Integrated Management System

Historically many organizations started by implementing quality management system ISO 9001. Later, looking into the environmental impact of the organization they began to incorporate environment management requirements from ISO 14001. Many organizations now look at implementing all three standards to enhance their image in society and also to prove their concern for environment and their employees. Implementation and operation of three different management systems within an organization is a time-consuming, expensive and inefficient process. According to the integrated management systems (IMS), the organization can minimize duplication documents and work load, align objectives and reduce costs. An IMS describes several previously separate management systems grouped together to form a single system. A management system is integrated when at least two out of three possible systems are integrated as shown in Fig. 3.

The different possibilities are:

- Quality + Environment,
- Quality + Health & Safety,
- Environment + Health & Safety
- Quality + Health & Safety + Environment

OHSAS 18001 & ISO 14000 are quite similar to an extent but differ from ISO 9001, structure wise because ISO 14000 and 18000 contains four clauses with six elements whereas, ISO 9001 contains five clauses with 23 elements. Even with common system approach, they vary in their content.

Apart from structure, ISO 14000 comprises of following unique requirements:

1. Environmental aspects and impacts
2. Legal and other requirements
3. Environmental programs
4. Communication
5. Emergency preparedness and response

There are seven common elements in OHSAS 18001, ISO 9001 and ISO 14001

1. Structure and responsibility
2. Training, awareness and competence
3. Document control
4. Records
5. Corrective and preventive action
6. Internal audits
7. Management review

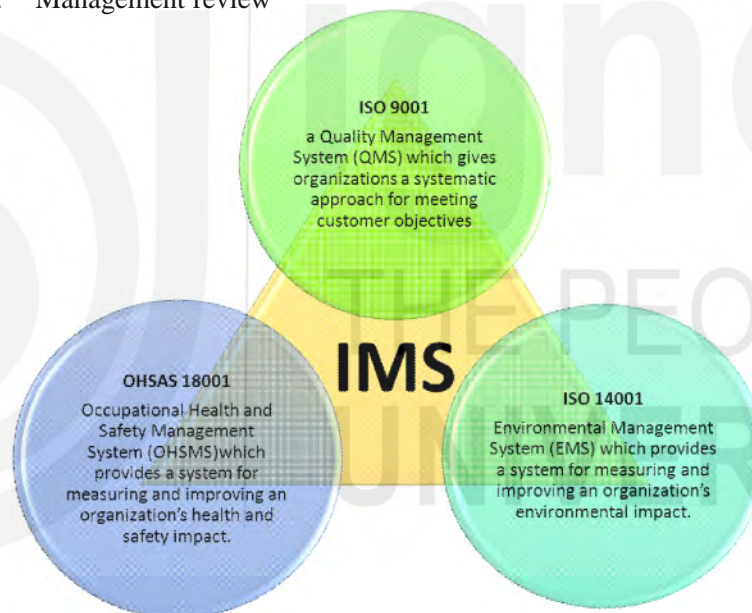


Fig. 3.2: Integrated management system concept

The main objective of IMS is to streamline processes even further and avoid duplication procedures and working process. However, just because a system is integrated does not mean less attention is paid to auditing individual systems. The system must conform to the requirements of the individual standards, in order to maintain a high level of credibility and effectiveness.

Advantages of Integrated Management Systems

- Consistent objectives, planning, and document management
- Implementation and Operation of the system cost less.

- Easier internal audits
- No Redundancies, reducing the chance of conflict.

Disadvantages

- Responsibility of QMS and EHS can be conflicted in some organizational structures
- Documentation can be more intricate.
- External third party audits can be more difficult.

Check Your Progress 1

Note: a) Write your answer in about 50 words.
b) Check your progress with possible answers given at the end of the unit.

1. What is ISO? Briefly describe its evolution.

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2. What is ISO/TC 207 and explain its involvement in shaping up Environmental Management System.

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3. Describe the fundamental of ISO management system standards.

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4. Discuss theKey Benefits of ISO 14001.

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5. Explain ISO family standards with respect of Environmental Management Standards (EMS).

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6. Write a detailed note on integrated management system.

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7. Describe OHSAS 18001 and discuss its possible implementation with ISO 14001 and ISO 9001.

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3.7 LET US SUM UP

In 1947, International Organization for Standardization (ISO), founded in Geneva, Switzerland that has been revised and updated with several norms and standards in field of intellectual, scientific, technological and economic activity since past 70 years. The basis of ISO 14001 built on concept of **Plan: Do: Check: Act cycle** that assures development, improvement and control of management system. ISO 14001 comes with benefits regarding cost, consumption of energy, dignity of corporate sectors and much more. According to ISO 14001, EMS act as a management tool to control the impact of activities, products and services lead by any organization and industry. ISO 14001 is well known and widely accepted and practiced standard among all models of EMS. The integration of OHSAS 18001 with ISO 9001 and ISO 14001 to manage system standards. OHSAS 18001 concerned with reducing occupational hazard at workplace. An IMS comes with approach to reduce the risk regarding quality, environment, health and safety issues.

3.8 KEY WORDS

International Organization for Standardization, Environmental Management System, Plan-Do-Check-Act, Occupational Health and Safety Assessment Series, Integrated Management System.

3.9 REFERENCES AND SUGGESTED FURTHER READINGS

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3.10 ANSWERS TO CHECK YOUR PROGRESS

Answers to Check Your Progress 1

Your Answers should include the following Points:

1. Your answer should contain a brief note on genesis, structure and function of ISO and its evolution. You will find the answer in section 3.1 and 3.2.
2. Your answer should contain a brief note on ISO/TC207 and its involvement in EMS. You will find the answer in section 3.2
3. Your answer should contain explanation to ISO management system standards and also explain Plan : Do : Check : Act" (PDCA) cycle. You will find the answer in section 3.2.1 and 3.2.2.
4. You will find the answer in section 3.5
6. Your answer should include some important ISO standards as shown in Table 2 with brief explanation.
7. You will find the answer in section 3.6.4 with figure.
8. Your answer should include introduction, challenges and benefits of OHSAS and discuss its possible implementation with ISO 14001 and ISO 9001.